Influence of Information Resource Management on Occupational Safety Performance in Petrochemical Industries in Nigeria

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Abstract

This study examined the influence of information resource management on occupational safety performance in petrochemical industries in Nigeria. The study adopted a descriptive survey research design guided by three objectives, three research questions, and one hypothesis. The population comprised 2,450 employees drawn from Indorama Eleme Petrochemicals Limited, Indorama Eleme Fertilizer and Chemicals Limited, and Notore Chemical Industries Plc**.** Using the Taro Yamane formula, a sample size of 345 respondents was selected through proportionate stratified random sampling, while 332 valid questionnaires were returned and analyzed. Data were collected using a structured questionnaire validated by experts in Library and Information Science and Occupational Health and Safety. The reliability of the instrument yielded a Cronbach's Alpha coefficient of 0.88**.** Mean and standard deviation were used to answer the research questions, while simple linear regression was used to test the hypothesis at the 0.05 level of significance. The findings revealed that information resource management practices were effectively implemented in the selected industries. The study also found that effective management of occupational safety information significantly enhanced workers' compliance with safety procedures and improved occupational safety performance. The study concluded that effective information resource management is a strategic determinant of occupational safety performance in petrochemical industries. It recommended strengthening corporate information centres, improving digital safety information systems, and engaging Library and Information Science professionals in the management and dissemination of occupational safety information.

Keywords: Information resource management, occupational safety performance, occupational safety information, Library and Information Science, petrochemical industries, Nigeria.

Introduction

Information has become one of the most valuable strategic resources in contemporary organizations because it supports planning, decision-making, innovation, organizational learning, and sustainable development. The rapid advancement of information and communication technologies has transformed how organizations create, acquire, organize, store, retrieve, disseminate, and utilize information to improve organizational effectiveness, (Agboola, 2019). In

industrial organizations, particularly those operating in hazardous environments such as petrochemical industries, effective information management is indispensable for protecting workers, minimizing occupational risks, ensuring regulatory compliance, and enhancing organizational productivity. Consequently, information resource management has emerged as a critical organizational function that integrates information systems, knowledge management, records management, and information services to support operational excellence and workplace safety.

Information resource management (IRM) refers to the systematic planning, acquisition, organization, storage, retrieval, dissemination, utilization, and evaluation of information resources to support organizational goals and decision-making. Within the context of Library and Information Science, information resource management extends beyond traditional library collections to include digital information resources, organizational records, electronic databases, knowledge repositories, technical manuals, safety documentation, policy documents, and communication systems that facilitate organizational performance. Choo (2021) describes information resource management as a strategic process through which organizations transform information into organizational knowledge capable of improving performance and competitive advantage.

Petrochemical industries constitute one of the most hazardous sectors of the global economy. The industry involves exploration, refining, chemical processing, polymer production, fertilizer manufacturing, storage, and transportation of petroleum products and industrial chemicals. Workers in these environments are routinely exposed to hazardous substances, toxic gases, high temperatures, pressurized systems, heavy machinery, electrical hazards, confined spaces, and combustible materials. These occupational hazards increase the likelihood of industrial accidents, chemical exposure, explosions, fires, occupational illnesses, equipment damage, and fatalities. According to the International Labour Organization (2024), approximately 2.93 million workers die annually from occupational accidents and work-related diseases, while millions more sustain non-fatal injuries that adversely affect productivity and organizational performance.

Occupational safety performance refers to the extent to which an organization successfully prevents workplace accidents, minimizes occupational hazards, promotes compliance with safety regulations, and protects employees from work-related injuries and illnesses. It encompasses safety compliance, accident prevention, hazard reporting, emergency preparedness, workers' safety behaviour, safety culture, and continuous improvement in occupational health and safety practices. According to the World Health Organization (2024), organizations with strong occupational safety management systems experience lower accident rates, reduced compensation costs, improved employee morale, and increased productivity. The effectiveness of occupational safety management depends largely on the quality of information resources available to employees. According to Ogonu, Leo-Ogbonna and Wahua (2026), safety manuals, operational procedures, hazard communication documents, accident reports, risk assessment records, digital safety

databases, electronic records, and training materials constitute critical information resources that guide employees in identifying workplace hazards and implementing appropriate preventive measures. Effective management of these resources ensures that workers receive accurate, timely, relevant, and accessible information necessary for informed decision-making and safe work practices.

From the perspective of Library and Information Science, information professionals play a significant role in managing organizational information resources. They organize, preserve, retrieve, and disseminate occupational safety information to facilitate knowledge sharing, evidence-based decision-making, regulatory compliance, and organizational learning. Corporate information centres and knowledge repositories provide mechanisms through which employees access updated safety information, technical manuals, standard operating procedures, and emergency response guidelines. Consequently, effective information resource management contributes not only to organizational productivity but also to improved occupational safety performance.

Nigeria remains one of Africa's leading petroleum-producing nations, with the oil and gas sector serving as a major contributor to national economic development. Rivers State hosts several major petrochemical industries, including Indorama Eleme Petrochemicals Limited, Indorama Eleme Fertilizer and Chemicals Limited, and Notore Chemical Industries Plc. These organizations employ thousands of workers engaged in high-risk industrial operations requiring strict adherence to occupational safety standards. Despite significant investments in occupational health and safety programmes, reports of industrial accidents, chemical exposure, equipment failures, and workplace injuries continue to occur within the Nigerian petrochemical sector. These incidents raise concerns regarding the adequacy of information resource management practices supporting occupational safety programmes.

Although previous studies have examined occupational safety management, safety culture, personal protective equipment compliance, and organizational performance within industrial settings, relatively little or no attention has been devoted to the contribution of information resource management from a Library and Information Science perspective. Addressing this gap, the present study investigates the influence of information resource management on occupational safety performance in selected petrochemical industries in Nigeria, thereby contributing empirical evidence to the growing body of Library and Information Science research on workplace safety and organizational performance.

Statement of the Problem

Petrochemical industries operate in environments characterized by significant occupational hazards that require effective management of information resources to support safe work practices. Although organizations invest in occupational safety programmes, workplace accidents, unsafe behaviours, and non-compliance with safety regulations seems to continue to occur. Existing studies also have focused primarily on engineering controls, occupational health, and safety management systems, while the contribution of information resource management to occupational safety performance seems to have received limited scholarly attention. Again, the absence of comprehensive empirical evidence from a Library and Information Science perspective seems to have created a knowledge gap regarding how information acquisition, organization, dissemination, accessibility, and utilization influence occupational safety performance in petrochemical industries in Nigeria. This study was therefore undertaken to examine the influence of information resource management on occupational safety performance in selected petrochemical industries in Nigeria.

Purpose of the Study

The purpose of this study was to examine the influence of information resource management on occupational safety performance in petrochemical industries in Nigeria. Specifically, the study sought to:

1. To determine the extent to which information resource management practices enhance occupational safety performance in petrochemical industries in Nigeria.
2. To examine the influence of information resource management on the dimensions of occupational safety performance in petrochemical industries in Nigeria.
3. To determine the predictive influence of information resource management on occupational safety performance in petrochemical industries in Nigeria.

Research Questions

1. To what extent do information resource management practices enhance occupational safety performance in petrochemical industries in Nigeria?
2. What is the influence of information resource management on the dimensions of occupational safety performance in petrochemical industries in Nigeria?
3. What is the predictive influence of information resource management on occupational safety performance in petrochemical industries in Nigeria?

Research Hypothesis

H_0: Information resource management does not significantly predict occupational safety performance in petrochemical industries in Nigeria.

Literature Review

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Concept of Information Resource Management

Information has become one of the most valuable strategic resources in modern organizations because it supports planning, policy formulation, operational efficiency, innovation, decision-making, and sustainable organizational development. Unlike physical resources, information increases in value when it is effectively organized, shared, and utilized. Consequently, organizations operating in knowledge-intensive and high-risk environments increasingly invest in information resource management systems to facilitate informed decision-making and improve organizational performance.

Information Resource Management (IRM) emerged during the late twentieth century as an interdisciplinary concept integrating Library and Information Science, information systems, records management, knowledge management, and organizational management. It is concerned with the systematic planning, acquisition, organization, storage, retrieval, dissemination, utilization, preservation, and evaluation of information resources to achieve organizational objectives. From the perspective of Library and Information Science, IRM involves ensuring that information resources are accurate, current, accessible, relevant, secure, and effectively used to support evidence-based decisions. According to Choo (2021), information resource management enables organizations to transform raw data into meaningful knowledge that enhances organizational intelligence, learning, and decision-making. Information management is an essential element of every organization that involves the application of technology and procedures to make sure that information is accessible and useful, (Anderson, 2022.)

Similarly, Jain (2013) defines information resource management as the coordinated management of information assets throughout their life cycle, beginning with information creation and extending through organization, storage, dissemination, utilization, preservation, and eventual disposal. This lifecycle approach ensures that information remains available, reliable, and useful for organizational operations.

Within industrial organizations, information resources include:

1. Occupational safety manuals
2. Standard operating procedures (SOPs)
3. Hazard communication documents
4. Safety Data Sheets (SDS)
5. Accident investigation reports
6. Emergency response plans
7. Digital safety databases
8. Electronic records
9. Technical drawings
10. Engineering manuals

11. Environmental monitoring reports
12. Regulatory compliance documents
13. Training materials
14. Corporate knowledge repositories
15. Risk assessment reports

These resources support organizational learning and provide workers with the information necessary for safe and efficient performance.

Components of Information Resource Management

Information resource management consists of several interrelated components.

Information Acquisition

Information acquisition involves identifying, collecting, and obtaining relevant information from internal and external sources. Petrochemical organizations acquire information through research, government regulations, international safety standards, equipment manufacturers, consultants, professional associations, and incident investigations.

Information Organization

Information organization refers to the classification, indexing, cataloguing, metadata creation, and arrangement of information resources to facilitate easy retrieval. Library and Information Science professionals play significant roles in organizing organizational information repositories.

Information Storage

Storage involves preserving information in both physical and electronic formats. Contemporary organizations increasingly utilize cloud computing, enterprise databases, document management systems, and digital repositories to ensure long-term accessibility.

Information Retrieval

Retrieval enables employees to locate needed information quickly whenever required. Efficient retrieval systems reduce decision-making time and improve operational efficiency.

Information Dissemination

Information dissemination refers to communicating information to employees through manuals, seminars, workshops, electronic communication, intranet systems, mobile applications, posters, emails, and safety meetings.

Information Utilization

Information utilization represents the actual application of available information during workplace decision-making. Utilization determines whether information contributes to improved organizational performance.

Occupational Safety Information

Occupational safety information refers to organized knowledge concerning workplace hazards, accident prevention, emergency procedures, occupational health regulations, hazard communication, and safe work practices. It provides employees with guidance on identifying hazards, using protective equipment, reporting unsafe conditions, and responding to emergencies.

According to the International Labour Organization (2024), effective occupational safety information significantly reduces workplace injuries by promoting hazard awareness and safe behaviour. The organization recommends continuous dissemination of safety information through regular training, communication campaigns, and accessible documentation.

Similarly, the World Health Organization (2024) emphasizes that occupational safety information should be timely, accurate, understandable, and readily accessible to all employees regardless of educational background.

In petrochemical industries, occupational safety information commonly includes:

1. Chemical hazard information
2. Personal Protective Equipment (PPE) guidelines
3. Fire prevention procedures
4. Emergency evacuation plans
5. Chemical spill response procedures
6. Lockout/tagout procedures
7. Permit-to-work systems
8. Confined space entry procedures
9. Equipment operating instructions
10. First-aid guidelines
11. Incident reporting procedures
12. Environmental protection measures

Sources of Occupational Safety Information

Workers obtain occupational safety information from several organizational sources, including:

1. Corporate information centres

2. Safety departments
3. Occupational health units
4. Corporate libraries
5. Safety manuals
6. Standard operating procedures
7. Digital information systems
8. Electronic databases
9. Intranet portals
10. Toolbox meetings
11. Workshops and seminars
12. Supervisory instructions
13. Professional associations
14. Government regulatory agencies

Effective integration of these sources improves employees' awareness and compliance with occupational safety requirements.

Occupational Safety Performance

Occupational safety performance refers to the extent to which an organization achieves its occupational health and safety objectives through accident prevention, hazard control, compliance with safety regulations, and continuous improvement in workplace safety, (Ogonu, Leo-Ogbonna & Wahua 2026). According to Christian, Bradley, Wallace, and Burke (2009), occupational safety performance consists of two major dimensions:

Safety Compliance

Safety compliance refers to employees' adherence to organizational safety policies, procedures, regulations, and legal requirements. Examples include:

1. Proper use of PPE
2. Following standard operating procedures
3. Observing warning signs
4. Compliance with permit-to-work systems
5. Reporting hazards
6. Participating in safety training

Safety Participation

Safety participation refers to voluntary behaviours that improve organizational safety beyond mandatory requirements. These behaviours include:

1. Participating in safety committees
2. Reporting unsafe conditions
3. Suggesting safety improvements
4. Assisting co-workers
5. Attending voluntary safety programmes
6. Sharing safety knowledge

Organizations demonstrating high levels of compliance and participation generally experience lower accident rates and higher operational efficiency, (Neal & Griffin, 2006).

Indicators of Occupational Safety Performance

Common indicators include:

1. Frequency of workplace accidents
2. Lost-time injury rate
3. Near-miss reporting
4. Safety compliance rate
5. PPE utilization rate
6. Hazard reporting frequency
7. Emergency preparedness
8. Employee safety awareness
9. Safety culture
10. Regulatory compliance
11. Equipment damage rate
12. Workers' health status

These indicators are frequently used by researchers to evaluate the effectiveness of occupational safety programmes.

Petrochemical Industries in Nigeria

Nigeria possesses one of Africa's largest petroleum and petrochemical sectors. Major petrochemical industries include facilities operated by companies such as Indorama Eleme Petrochemicals Limited and Notore Chemical Industries Plc. These organizations produce fertilizers, polymers, industrial chemicals, and related products while operating complex processing facilities involving hazardous materials. Workers in these industries routinely encounter risks associated with toxic chemicals, combustible gases, rotating machinery, high-pressure systems, confined spaces, and elevated temperatures. Consequently, efficient information resource management is essential for ensuring that workers receive current and reliable

occupational safety information necessary for accident prevention and regulatory compliance, (Organization of the Petroleum Exporting Countries 2024).

Methodology

This study adopted a descriptive survey research design to investigate the influence of information resource management on occupational safety performance in selected petrochemical industries in Nigeria. The study adopted a descriptive survey research design guided by three objectives, three research questions, and one hypothesis. The study was conducted in three major petrochemical industries in Rivers State, Nigeria, namely **Indorama Eleme Petrochemicals Limited, Indorama Eleme Fertilizer and Chemicals Limited,** and **Notore Chemical Industries Plc**. These organizations were purposively selected because they are among the largest petrochemical industries in Nigeria, operate sophisticated occupational safety management systems, and employ a large workforce exposed to hazardous industrial processes. The population of the study consisted of **2,450 employees** in the selected industries. The sample size of **344 respondents** was determined using the Taro Yamane (1967) sample size determination formula at a 5% level of precision. Proportionate stratified random sampling technique was adopted to allocate the sample among the three industries according to their staff strength. Thereafter, simple random sampling was used to select individual respondents from each stratum to ensure equal opportunity for participation.

Data were collected using a researcher-developed instrument titled "**Information Resource Management and Occupational Safety Performance Questionnaire" (IRMOSPQ).** The questionnaire contained items measuring information resource management and occupational safety performance using a four-point Likert scale of Strongly Agree (4), Agree (3), Disagree (2), and Strongly Disagree (1). The questionnaire was subjected to face and content validation by experts in Occupational Health and Safety, Industrial Management, Library and Information Science, and Measurement and Evaluation. Their observations and recommendations were incorporated into the final version of the instrument to improve its clarity, relevance, and content validity. The reliability of the instrument was established through a pilot study involving **30 employees of Matrix Petrochem Limited,** Trans-Amadi Industrial Estate, Port Harcourt, who were not included in the main study. Cronbach's Alpha reliability analysis yielded coefficients of **0.89** for Information Resource Management, **0.87** for Occupational Safety Performance, and an overall reliability coefficient of **0.88**, indicating that the instrument possessed high internal consistency.

Copies of the questionnaire were personally administered by the researcher with the assistance of trained research assistants after obtaining ethical approval and management permission from the participating organizations. Respondents were assured of anonymity, confidentiality, and voluntary participation. Of the **345 questionnaires** distributed**, 332 copies** representing **96.2%** were properly completed and returned for analysis, while twelve copies were either not returned

or inadequately completed. Data analysis was carried out using the Statistical Package for the Social Sciences (SPSS) Version 27. Mean and standard deviation were used to answer the research questions, while simple linear regression analysis was employed to test the hypothesis at the **0.05 level of significance.** For the interpretation of mean scores, a criterion mean of 2.50 was adopted. Mean scores of 2.50 and above indicated agreement or a high extent, whereas mean scores below 2.50 indicated disagreement or a low extent.

Results

Research Question One

What is the extent of information resource management practices on occupational safety performance in petrochemical industries in Nigeria?

Table 1: **Extent of Information Resource Management on occupational safety performance in petrochemical industries in Practices in Petrochemical Industries (N = 332)**

S/N	Information Resource Management Practice	Mean	SD	Decision
1	Occupational safety information is adequately acquired from relevant sources.	3.70	0.58	High Extent
2	Safety information resources are properly organized for easy access.	3.63	0.60	High Extent
3	Digital databases are used for storing occupational safety information.	3.59	0.61	High Extent
4	Employees can easily retrieve occupational safety information when required.	3.61	0.59	High Extent
5	Safety information is regularly disseminated through workshops and seminars.	3.68	0.56	High Extent
6	Electronic communication enhances access to safety information.	3.65	0.57	High Extent
7	Information resources are regularly updated.	3.58	0.63	High Extent
8	Corporate information systems facilitate knowledge sharing.	3.66	0.58	High Extent
9	Management encourages utilization of occupational safety information.	3.69	0.55	High Extent
10	Information professionals contribute to safety information management.	3.62	0.60	High Extent

Grand Mean = 3.64

Table 1 reveals that the respondents perceived the extent of information resource management practices on occupational safety performance in the selected petrochemical industries to be high, with a **grand mean of 3.64**, which is above the criterion mean of **2.50**. The highest-rated item was the acquisition of occupational safety information from relevant sources **(M = 3.70, SD = 0.58),**

while the least-rated item, although still rated high, was the regular updating of information resources **(M = 3.58, SD = 0.63).**

The findings indicate that the industries have established effective systems for acquiring, organizing, storing, retrieving, disseminating, and utilizing occupational safety information. This suggests that information resource management is recognized as an essential component of organizational safety management and operational effectiveness.

Research Question Two

What is the influence of information resource management on the dimensions of occupational safety performance in petrochemical industries?

Table 2: Influence of Information Resource Management on the dimensions Occupational Safety Performance (N = 332)

S/N	Statement	Mean	SD	Decision
1	Information resource management improves compliance with safety regulations.	3.72	0.55	Agree
2	Access to safety information reduces workplace accidents.	3.69	0.57	Agree
3	Information resources improve hazard identification.	3.65	0.60	Agree
4	Information management promotes effective emergency response.	3.67	0.58	Agree
5	Workers utilize PPE more effectively because of accessible information.	3.63	0.61	Agree
6	Information resources improve safety awareness.	3.74	0.53	Agree
7	Safety documentation supports accident prevention.	3.68	0.56	Agree
8	Information sharing improves organizational safety culture.	3.70	0.55	Agree
9	Digital information systems strengthen occupational safety.	3.66	0.59	Agree
10	Effective information management improves overall safety performance.	3.75	0.52	Agree
Grand Mean = 3.69				

Table 2 shows a **grand mean score of 3.69**, indicating that respondents agreed that information resource management positively influences occupational safety performance in petrochemical industries. The highest-rated item was that effective information management improves overall safety performance **(M = 3.75, SD = 0.52),** while the lowest-rated item was that information resources improve PPE utilization **(M = 3.63, SD = 0.61)**, which nevertheless remained well above the criterion mean. The findings suggest that effective information resource management enhances safety awareness, facilitates compliance with safety regulations, improves hazard identification,

strengthens emergency preparedness, and contributes significantly to accident prevention and organizational safety culture.

Research Question Three

What is the predictive influence of information resource management on occupational safety performance in petrochemical industries in Nigeria?

Table 3: Predictive Occupational Safety Performance in Petrochemical Industries (N = 332)

S/N	Occupational Safety Performance Indicators	Mean	SD	Decision
1	Employees consistently comply with occupational safety regulations.	3.71	0.54	High
2	Workers regularly utilize appropriate Personal Protective Equipment (PPE).	3.68	0.56	High
3	Hazard reporting is encouraged and practiced in the organization.	3.63	0.59	High
4	Workplace accidents have reduced because of improved safety practices.	3.70	0.55	High
5	Emergency response procedures are effectively implemented.	3.66	0.58	High
6	Employees actively participate in occupational safety programmes.	3.64	0.60	High
7	Safety communication enhances compliance with organizational safety policies.	3.73	0.53	High
8	Management demonstrates commitment to occupational safety.	3.69	0.56	High
9	Workers possess adequate knowledge of workplace hazards.	3.67	0.57	High
10	Overall occupational safety performance has improved.	3.74	0.52	High

Grand Mean = 3.69

Table 3 shows that respondents perceived occupational safety performance in the selected petrochemical industries to be high, with a grand mean of 3.69, which exceeds the criterion mean of 2.50. The highest-rated item was that overall occupational safety performance has improved (M = 3.74, SD = 0.52), while the lowest-rated item was employee participation in occupational safety programmes (M = 3.64, SD = 0.60). Although the latter recorded the lowest mean score, it still indicates a high level of agreement. The findings suggest that effective occupational safety management practices have contributed to improved safety compliance, hazard reporting, emergency preparedness, and reduction of workplace accidents in the participating petrochemical industries.

Test of Hypothesis

H_0: Information resource management does not significantly predict occupational safety performance in petrochemical industries in Nigeria.

To test the hypothesis, simple linear regression analysis was conducted at the 0.05 level of significance.

Model Summary of Simple Linear Regression Showing the Prediction of Workers' Productivity by Information Awareness on PPE Use (N = 332)

Table 4: Model Summary of simple linear regression showing the prediction of Information Resources Management on Occupational Safety Performance (N = 332)

Model	R	R^2	Adjusted R^2	Std. Error of the Estimate
1	0.756	0.572	0.571	0.371

Predictor: Information Resource Management

Dependent Variable: Occupational Safety Performance

ANOVA for the Regression Model

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	60.724	1	60.724	441.213	.000
Residual	45.449	330	0.138		
Total	106.173	331			

Regression Coefficients

Predictor	B	Std. Error	β	t	Sig.
Constant	1.084	0.149	–	7.275	.000
Information Resource Management	0.714	0.034	0.756	21.005	.000

Table 4 presents the model summary of the regression analysis. The multiple correlation coefficient (R = 0.756) indicates a strong positive relationship between information resource management and occupational safety performance. The coefficient of determination ($R^2 = 0.572$) shows that 57.2% of the variation in occupational safety performance is explained by information resource management, while the remaining 42.8% is attributable to other organizational, technological, managerial, and human factors outside the scope of this study. The adjusted coefficient of determination (Adjusted $R^2 = 0.571$) indicates that the model maintains substantial explanatory power after adjusting for sample size. The standard error of estimate (0.371) further suggests that the regression model provides a good fit to the observed data. Furthermore, the ANOVA results indicate that the regression model is statistically significant ($F(1, 330) = 441.213$, $p < .001$). Since the probability value is less than the alpha level of 0.05, the regression equation significantly predicts occupational safety performance. This demonstrates that information resource management contributes meaningfully to explaining differences in occupational safety performance among the surveyed petrochemical industries. In addition, the regression coefficient table indicates that information resource management has a positive and statistically significant effect on occupational safety performance. The unstandardized regression coefficient (B = 0.714) implies that a one-unit improvement in information resource management is associated with an estimated 0.714-unit increase in occupational safety performance, holding other factors constant.

The standardized beta coefficient ($\beta = 0.756$) indicates a strong positive predictive effect. Furthermore, the t-value of 21.005 with a corresponding p-value < .001 confirms that information resource management is a statistically significant predictor of occupational safety performance. Since the significance value ($p < .001$) is less than the 0.05 level of significance, the null hypothesis is rejected.

Discussion of Findings

The findings of this study were discussed in relation to the objectives of the study, the reviewed literature, and the underpinning theoretical framework.

Information Resource Management Practices in Petrochemical Industries

The study established that information resource management practices were implemented to a high extent in the selected petrochemical industries, with a grand mean of 3.64. This finding indicates that the organizations have developed effective mechanisms for acquiring, organizing, storing, retrieving, disseminating, and utilizing occupational safety information to support operational activities and workplace safety.

The finding suggests that information resources such as occupational safety manuals, Safety Data Sheets (SDS), standard operating procedures, electronic databases, digital repositories, technical reports, and emergency response documents are adequately managed and made accessible to

employees. Such practices facilitate informed decision-making, regulatory compliance, organizational learning, and continuous improvement in occupational safety management.

This finding agrees with Choo (2021), who argued that organizations achieve superior performance when information resources are effectively organized and transformed into organizational knowledge. Similarly, Anderson (2022) maintained that systematic management of organizational information enhances knowledge sharing, improves decision-making, and strengthens organizational effectiveness. From the perspective of Library and Information Science, the finding demonstrates that effective information organization, classification, indexing, retrieval, preservation, and dissemination are essential organizational functions extending beyond conventional library environments into industrial organizations.

Influence of Information Resource Management on Occupational Safety Performance

The study revealed that information resource management significantly influences occupational safety performance, as evidenced by the high grand mean score of 3.69. Respondents agreed that effective information management enhances compliance with occupational safety regulations, promotes hazard identification, improves emergency preparedness, strengthens organizational safety culture, and facilitates accident prevention. This finding demonstrates that workers who have timely access to relevant occupational safety information are more likely to comply with workplace safety regulations and adopt safe work practices. Continuous dissemination of occupational safety information through digital platforms, corporate information centres, training programmes, safety briefings, and electronic communication contributes significantly to organizational safety performance.

The result corroborates the findings of Neal and Griffin (2020), who reported that organizations characterized by effective safety communication and information management consistently experience higher levels of safety compliance and lower accident rates. Likewise, Ogonu, Leo-Ogbonna and Wahua (2026), found that occupational safety information significantly enhanced employees' safety behaviour and workplace performance in Petrochemical industries.

Furthermore, the finding supports the Information Systems Success Model, which posits that high-quality information and effective information systems improve information utilization, user satisfaction, and organizational performance.

Predictive Influence of Information Resource Management on Occupational Safety Performance

The regression analysis revealed that information resource management significantly predicts occupational safety performance ($R = .756$; $R^2 = .572$; $F(1,330) = 441.213$; $\beta = .756$; $p < .001$**).** This finding indicates that information resource management accounted for 57.2% of the variation

in occupational safety performance among the selected petrochemical industries. The result suggests that organizations with efficient information acquisition, organization, storage, retrieval, dissemination, and utilization systems are more likely to achieve superior occupational safety outcomes. Effective management of occupational safety information enables employees to identify workplace hazards, comply with safety procedures, utilize PPE correctly, report unsafe conditions promptly, and respond effectively during emergencies. The finding is consistent with studies by Christian, Bradley, Wallace, and Burke, (2009) which reported significant positive relationships between occupational safety information, safety communication, safety compliance, and organizational productivity. It also aligns with the International Labour Organization (2024), which emphasizes that organizations with effective occupational safety information systems experience fewer occupational injuries, lower compensation costs, and improved productivity.

For the Library and Information Science profession, the result reinforces the strategic role of information professionals in designing, organizing, preserving, retrieving, and disseminating occupational safety information. Corporate libraries, digital repositories, knowledge management systems, and records management units can serve as critical infrastructures for improving workplace safety and organizational performance.

Conclusion

This study examined the influence of information resource management on occupational safety performance in selected petrochemical industries in Nigeria. The findings established that information resource management practices were implemented to a high extent and that they significantly influenced occupational safety performance. The regression analysis further demonstrated that information resource management is a strong predictor of occupational safety performance, explaining a substantial proportion of the observed variation in workplace safety outcomes. The study concludes that effective management of occupational safety information is not merely an administrative function but a strategic organizational resource that promotes safety compliance, enhances hazard awareness, strengthens emergency preparedness, reduces workplace accidents, and improves occupational safety performance. Consequently, petrochemical industries should regard information resource management as an integral component of their occupational health and safety management systems.

Recommendations

Based on the findings of this study, the following recommendations are made:

1. Strengthen Information Resource Management Systems**:** Management of petrochemical industries should strengthen their information resource management systems by ensuring the systematic acquisition, organization, storage, retrieval, dissemination, and utilization

of occupational safety information. This will enhance employees' access to accurate and timely safety information, improve decision-making, and promote compliance with occupational safety regulations.

2. Invest in Digital Information Infrastructure and Professional Information Services: Petrochemical industries should invest in modern digital information technologies, including electronic document management systems, digital repositories, and enterprise knowledge management platforms. In addition, qualified Library and Information Science professionals should be engaged to manage occupational safety information resources and support effective knowledge sharing across the organization.
3. Promote Continuous Occupational Safety Information Training**:** Management should organize regular training, workshops, and awareness programmes to improve employees' information literacy and their ability to access, interpret, and apply occupational safety information. Continuous training will strengthen hazard recognition, emergency preparedness, and adherence to safe work practices, thereby enhancing overall occupational safety performance.

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